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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,188	05/30/2001	Frederick Lee Kitson	10005869	7283

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HEWLETT-PACKARD COMPANY
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EXAMINER

ZIMMERMAN, BRIAN A

ART UNIT	PAPER NUMBER
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2635

DATE MAILED: 07/01/2004

#5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,188

Applicant(s)

KITSON ET AL. 

Examiner

Brian A Zimmerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

EXAMINER'S RESPONSE

Status of Application

In response to the applicant's amendment received on 4/23/04. The examiner has considered the new presentation of claims and applicant arguments in view of the disclosure and the present state of the prior art. And it is the examiner's position that claims 1-38 are unpatentable for the reasons set forth in this office action:

This case was previously assigned to N. Linnenkamp, but has been reassigned. Accordingly, all correspondence regarding this case should reflect the new Examiner.

Claim Objections

Claim 34 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation of claim 34 has been included in claim 30 (the previous claim) and as such the limitation of claim 34 does not serve to further limit claim 30 from which it depends.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1-5, 7-10,13, and 18-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Borza et al. (heretofore Borza, WO 98/12670).

In reference to claim 1, Borza teaches of an apparatus for authenticating the identify of a person, comprising;

- A wrist-worn display (**Fig 5b, 150**) for providing information (**the watch tells time**) to a wearer of the apparatus
- An image sensor (**53 for biometric sensor**) for obtaining an image of the wearer when the wearer views the display
- A memory for storing a baseline profile of the wearer (**Fig 10, "Authorized User Information", Page 16-17, lines 29-31 and lines 1-9 respectively**), the baseline profile being based upon the image wherein the image sensor repeatedly obtains additional images for comparison to the baseline profile (**Additional images can be obtained whenever sensor is actuated, Page 6, lines 10-15**).

In reference to claim 2, claim 1 is taught as above. Borza teaches that the apparatus develops a response when comparison of the additional images to the baseline profile indicates that identity of the wearer cannot be confirmed (**Invalid**

registration signal is transmitted when the identification cannot be verified, Page 16, lines 12-22).

In reference to claim 3, claim 2 is taught as above. Borza teaches that the response disallows a transaction attempted by the wearer **(In “access mode” access to the host system is either authorized or not authorized, Page 15, lines 20-25).**

In reference to claim 4, claim 3 is taught as above. Borza teaches that a general-purpose processor is used for making the comparison of the additional images to the baseline profile **(Fig 6, Processor 12).**

In reference to claim 5, claim 3 is taught as above. Borza teaches that a transceiver is used for transmitting the additional images to an external computer system **(Page 12, lines 10-17 show port 55 can alternately comprise a transceiver).**

In reference to claim 7, claim 5 is taught as above. Borza teaches that the external computer system performs an image recognition technique on the additional images **(Fig 7 shows external computer system with Comparison 23).**

In reference to claim 8, Borza teaches of a method for authenticating the identity of a person comprising:

- Obtaining baseline samples of biometric data from the person **(Fig 10, “Read Biometric Information”)**
- Forming a baseline profile from the biometric data **(Fig 8, “Enroll mode” stores profile information for comparison in access mode)**

- Repeatedly obtaining additional biometric data from the person in response to the person accessing a portable device for information **(Sensing mechanism is repeatable and Retinal Scan described on Page 11, lines 18-22 can occur when user is either obtaining the time from looking at the watch or performing something as simple as trying to obtain information on whether he/she is being authorized by the device)**
- Comparing the additional data to the baseline profile for authenticating identify of the person **(Fig 7 shows external computer system with Comparison 23)**
- Developing a response to said comparing **(Invalid registration signal is transmitted when the identification cannot be verified, Page 16, lines 12-22)**

In reference to claim 9, claim 8 is taught as above. Borza teaches that the information comprises the time of day **(Fig 5b, The watch indicates the time)**.

In reference to claim 10, claim 9 is taught as above. Borza teaches that the portable device is wrist-worn **(An analogue watch 150, Page 11, line 23)**.

In reference to claim 13, claim 8 is taught as above. Borza teaches that the baseline samples comprise obtaining a fingerprint image of the person **(Borza teaches of a sensing element 117, a sensing pad 119 for obtaining a fingerprint image of a person, Page 9 lines 22-23)**.

In reference to claim 18, claim 8 is taught as above. Borza teaches that comparing being by the portable device (**Fig 9 teaches a method of where comparison is done on the watch**).

In reference to claim 19, claim 8 is taught as above. Borza teaches that comparing being by a computer system external to the portable device (**Comparison shown in a external computer system such as the receiving module of Fig 7, comparison done by comparator 23**).

In reference to claim 20, claim 19 is taught as above. Borza teaches that the external computer system includes mass storage for storing additional biometric data (**Host system receiving module 20 described as being a computer system that stores references IDREF, computers are known to have mass storage, Page 8, lines 27-30. The phase 'matching a reference ID' indicates that more than one reference ID is stored on the host system**).

In reference to claim 21, claim 8 is taught as above. Claim 21 taught as claim 3 above.

In reference to claim 22, claim 21 is taught as above. Borza teaches that a comparison between sensed biometric data and stored biometric data be performed to ascertain identity (**Fig 8, step 37**). It is inherent in the comparison of sensed vs. stored that a level of confidence be ascertained even if such levels form a crude set such as "they are" or "they are not" the person. Also inherent in the comparison is development of tolerance levels since all real-world collected data has some error introduced as part of the instruments performing the

collection. The tolerance levels will affect the minimum threshold level and thus must be compared as such.

In reference to claim 23, claim 22 is taught as above. Borza teaches that the predetermined minimum threshold being for a particular transaction attempted by the person (**Borza teaches allowing some receivers to inhibit access to devices of certain security access levels such decision done by device type, Page 20, lines 4-6**). It is clear that Borza recognizes that some devices will not be able to authenticate within a certain tolerance, which may not be acceptable for some secure transactions and thus, restrict that particular type of transaction resulting in an understood predetermined minimum threshold for identity authentication.

Thus, Borza teaches all the limitations of claims 1-5, 7-13, and 18-23.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 6, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borza in view of Borman et al. (Heretofore Borman).

In reference to claim 6, claim 5 is taught as above. Borza teaches that the external computer system performs processing on an image to determine if the user of the portable device is authorized. Borza does not teach of performing a super-resolution technique on the additional images. Borman suggests that the

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problem of reconstructing high-resolution imagery from data acquired as a set of low quality video camera sequences (CCD images) promises improved reconstruction (Page 42, 1st paragraph).

In reference to claim 14, claim 8 is taught as above. Borman suggests using super-resolution techniques to improve reconstruction. (Page 42, paragraph 4).

In reference to claim 15, claim 14 is taught as above. Borza teaches of transmitting the baseline samples (biometric data) from the portable device (watch) to an external computer system. Borman suggests that reconstructing a high-resolution image from a set of low quality video camera sequences promises improved reconstruction (Page 42, 1st paragraph).

It would have been obvious to one skilled in the art at the time of invention to combine the teachings of Borza with the suggestions of Borman because the inclusion of super-resolution techniques in the imaging of low quality picture sequences would have provided increased accuracy in identity determination. In addition, Borman suggests that restoration of sequences captured using low quality cameras is a likely application scenario (Page 42, paragraph 4, "Low quality video camera sequences").

In reference to claim 16, claim 15 is taught as above. Claim 16 taught similar to claim 7, where "comparing the additional data to the baseline samples" is read to be the same as "performing an image recognition technique on the additional images" whether or not the data is a super-resolution reconstruction.

In reference to claim 17, claim 15 is taught as above. It would have been an object of any modern computer to have the capability of obtaining an "upgrade" in order to preserve the viability and longevity of the equipment, even if the "upgrade" was not exclusively software but included the exchange of certain pieces of hardware, such as a mainboard or ROM.

Thus, Borza and Borman teach all the limitations of claims 6, and 14-17.

3. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borza in view of Bergholz et al. (heretofore Bergholz).

In reference to claim 11, claim 8 is taught as above. Borza does not teach that the baseline samples comprise obtaining an image of the person's face. Borza teaches that biometric sensor means 53 can be any other suitable, portable device, Page 11, lines 18-22. Bergholz suggests the use of an opto-electronic imaging device 4 for characterizing a user's distinctive physical features. Portable cameras are known to be able to characterize a user's distinctive physical features.

In reference to claim 12, claim 11 is taught as above. Borza teaches that the baseline samples comprise obtaining an image of the person's iris. **(Borza teaches that a retinal scan can be used for baseline sample, Page 11, lines 18-22).**

It would have been obvious at the time of invention to combine the teachings of Borza with the suggestions of Bergholz because Borza teaches that

other sensing devices would also be suitable in his device and Bergholz suggests the use an optical sensing device.

Thus, Borza and Bergholz teach all the limitations of claims 11 and 12.

4. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borza in view of Bergholz et al. (heretofore Bergholz) further in view of Carroll et al. (heretofore Carroll).

In reference to claim 24, claim 21 is taught as above. Borza does not teach of sensing that the person is not wearing the device and developing a response when the person is not wearing the device. Borza does teach that authentication should be revoked after a predetermined amount of time passes thus requiring re-authentication (**Page 17, lines 14-17 describe employing a time-out to disable access to a device found or taken**). Bergholz suggests the use of an authentication system that provides access to the electronic components of a car, which employs a seat switch to monitor uninterrupted usage by a biometrically authorized person and thus develop a response when a user is not using the device, such as disabling electronic controls (**Col 2, lines 23-30**). Carroll suggests the use of a wearable device (**house arrest monitor**) that monitors biometric data such voice, fingerprints, breath analysis, heart rate, temperature, blood pressure (**Fig 9 lists collected biometric data, Col 10 lines 58-64**).

Borza teaches of a need for continuously re-authorizing an individual to ensure proper authorization (**Page 17, lines 14-17**). Bergholz suggests

monitoring a continuous biometric variable (**weight**) in order to maintain confidence in the user's identity in order to provide access authorization. Carroll suggests that it would be convenient to wear a biometric sensing device.

It would have been obvious to one skilled in the art of access authorization to combine the teaching of Borza with the suggestions of Bergholz and Carroll in order to provide a mechanism for monitoring whether a device is not being worn or used in order maintain a greater confidence in the user's identity. In addition, Borza discloses a portable device that runs on batteries of which power consumption is an issue, and Bergholz suggests that continuous biometric monitoring can be used to save energy because the use of other power-intensive processors can be circumvented (**Col 2, lines 18-20**).

In reference to claim 25 and 26, claim 24 is taught as above. Carroll teaches of sensing body temperature, heartbeat, and breathing (**See Fig 9 and Col 10 lines 58-64**).

It is well known in the art that body temperatures and bio-noises, such as heartbeats, are measurable continuous biometric variables that are indicative of living beings. It would have been obvious to exchange the seat switch (6) of Bergholz with a body temperature sensor or a heartbeat/breathing monitor and still reliably detect the presence of a person in the seat thus not departing from the core of the access authorization process of Bergholz.

Thus, Borza, Bergholz, and Carroll teach all the limitations of claims 24-26.

Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borza. Borza does not teach of sensing environmental information. The applicant describes environmental information depending on factors such as temperature (ambient or body), background noise, geographic position, and time of day. It is well known in the art to rely upon secondary information sources in order to make access and authentication procedures as secure as possible.

It would have been obvious to one skilled in the art at the time of invention to include in the baseline profile any data that would be required to allow access to a secured transaction. Prior art suggests the use of transaction time, location, and number of prior transactions for determining access authorization.

Thus, Borza and prior art teach all the limitations of claims 27 and 28.

5. Claims 29-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borza in view of Freedman.

In reference to claim 29, claim 8 is taught as above. Claim 29 is taught as claim 31 above.

In reference to claims 30 and 38, Freedman teaches of authenticating the identity of a person comprising:

- Obtaining baseline samples of biometric data from the person over a period of at least one day (**Col 3, lines 38-52 describes obtaining biometric samples from a person and when a positive comparison is made, baseline samples are collected. Such an operation is not**

time dependent or time limited thus inherently includes at least one day.)

- Forming a baseline profile from the biometric data **(Col 3, lines 38-52)**
- Repeatedly obtaining additional biometric data from the person
- Comparing the additional data to the baseline profile for authenticating identity of the person
- Developing a response to said comparing

The last three steps of described method deal with authenticating a person of which biometric identity authenticating systems always perform.

In reference to claim 31, claim 30 is taught as above. Freedman teaches of freezing the baseline profile after obtaining baseline samples **(Fig 2 indicates that three data sets are characterized then the process of obtaining baseline samples is terminated).**

In reference to claim 32, claim 30 is taught as above. Freedman teaches of updating the baseline sample by the additional biometric data when the additional biometric data successfully authenticates the identity of the person **(Col 3, lines 43-52 teaches of adding addition data to the baseline when comparison is indicative of a substantial match).**

In reference to claim 33, claim 30 is taught as above. Claim 33 is taught as claim 3 above.

In reference to claim 34, claim 30 is taught as above. Borza teaches that baseline samples are collected while the person goes about his or her normal

activities (Retinal Scan described on Page 11, lines 18-22 can occur when user is either obtaining the time from looking at the watch or performing something as simple as trying to obtain information on whether he/she is being authorized by the device which can be considered normal activities).

In reference to claim 35, claim 30 is taught as above. Claim 35 is taught as claim 11 above.

In reference to claim 36, claim 35 is taught as above. Claim 36 is taught as claim 12 above.

In reference to claim 37, claim 30 is taught as above. Prior art suggests that the use of voice recognition can be used to reliably authenticate an individual. Freedman suggests that his method as applied to fingerprint identification is also useful in other biometric template selection processes as well (Col 5, lines 42-44).

It would have been obvious to one skilled in the art at the time of invention to combine the teachings of Borza with the suggestions of Freedman because Borza teaches the use of biometric identification device and Freedman suggests the use of a biometric template selection process for use with biometric identification devices and systems. In addition, Freedman suggests that selecting the templates that best represent the unique biometric identification of the individual reduces the computation and thus the time required to register a print (Col 5, lines 45-66) and since Borza discloses a portable device, as such he would be concerned with reducing computation in order to decrease power consumption and size.

Thus, Borza and Freedman teach all the limitations of claims 29, and 33-37.

Response to Arguments

Applicant's arguments filed 4/24/03 have been fully considered but they are not persuasive. The applicant argues that Borza does not take images of the wearer (only) while the wearer is viewing the display of the device to read the time. First, the claims do not include such a narrow limitation. The claims (claim 1 as representative) recite that the image is obtained when the wearer views the display for the information. The applicant's interpretation of the claims that the image occurs only during the viewing of the time is not supported by the specification in a manner that fulfills the written description requirement of 35 USC 112 first paragraph. The specification fails to teach how to detect when the user is viewing the time. Additionally, the Borza reference does teach such an embodiment. As acknowledged by the applicant Borza includes a retinal scanner to read the users retinal pattern for authentication. In order to be able to scan the retina, the user must be looking at the scanner, and as per the embodiment of figure 5a, the user would be viewing the time.

The applicant argues that Borza's disclosure of a retina scanner is not described how it would be used to obtain biometric samples. The reference does explain how to obtain fingerprint samples and clearly from Borza's disclosure, retina samples would be gathered in the same manner. Further obtaining

samples would naturally occur at the time the user wishes to authenticate to obtain access to the protected computer or database etc.

The applicants argue that Borza does not disclose collecting samples while the user goes about his or her normal activities. The applicant has not defined the term "normal activities" so the term is interpreted in its broadest reasonable fashion. Here the examiner interprets the term "normal activities" to include the authentication process of Borza, since this is the normal operation of the Borza device.

The applicant argues that Carroll cannot be combined with Borza and Berholz because Carroll is directed to a house arrest monitor, which is contrasting to authorization for the use of a vehicle. Even though Carroll's use of the authentication is different, nonetheless, Carroll is relevant and analogous to the Borza and Berholz devices since each is concerned with performing authorization of an individual, which is the desire of the present application.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory

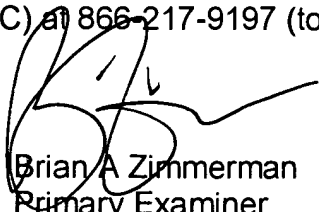
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period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian A Zimmerman whose telephone number is 703-305-4796. The examiner can normally be reached on Off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Horabik can be reached on 703-305-4704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian A Zimmerman
Primary Examiner
Art Unit 2635

BAZ